

HOYA NEW



A photo by the late Mary Ann Cajano, Los Banos, Philippines. as yet unpublished.

Oh There it is !

A pdf publication devoted to the Genus

Hoya ISSN 2329-7336

Volume 8 Issue 2

July 2018

Editor: Dale Kloppenburg

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When a species is collected from the wild, I feel it is wise to identify it, propagate it and name it. In this way it will eventually get it into commercial channels, be

distributed to all those interested in this genus and thus be preserved. If in the future the species is lost through natural causes or forest destruction it will still be here on earth in your collection.

The following new species are presented in PDF format with ISSN number.
Check posting on my website “<http://.hoyardk.wix.com/Kloppenburger>” under publications.

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Hoya matiensis Kloppenburg 2018

ISSN 2329-7336

Hoya matiensis Kloppenburg, species nova, holotypus 49238 (UC) hic designatus. Sp. unique, folia opposite, elliptic lanceolate, basi obtusa vel apice acuta, nervis palmatus - triplinervis. Pedicellis erectis filiformibus glabris 2.0 cm longis, apicem versus dilatata, et calycis segmentis late ovato-oblongis obtusis vel suborbicularibus, glabris, 0.36 cm longis, corolla subrotata 1.9 cm diametro, lobis late triangularibus, subtus glabris, intus dense papillosis, 0.6 cm longis, basi connatis; coronae foliolis horizontalibus, progressus modicis umbos, pollinia 0.80 mm longis et 0.32 cm latis.

Collected by Ramos/Edano at Mati Davao, Mindanao, Philippines 1927. Roll 54 Draw 70

Check details of parts below.

Leaves: elliptic lanceolate base obtuse apex acute, palmate to triplinerved.

Pedicels: 2.0 cm x 0.1 cm enlarging toward the apex.



Calyx: top view enlarged about 8x, large and with overlapping sepals, ligules long. Sepals, ovate 0.36 cm long and 0.30 cm wide; about the center, glabrous.

Ovaries: narrow cone shaped 0.16 cm tall 0.10 cm at base of pair, glabrous.



Top view of a flower enlarged about 8x, corolla lobe extending to bottom of picture. Outside is glabrous inside puberulous may be papillose ?

Sinus – sinus	0.60 cm
Sinus – apex	0.57 cm
Apex – center	0.95 cm

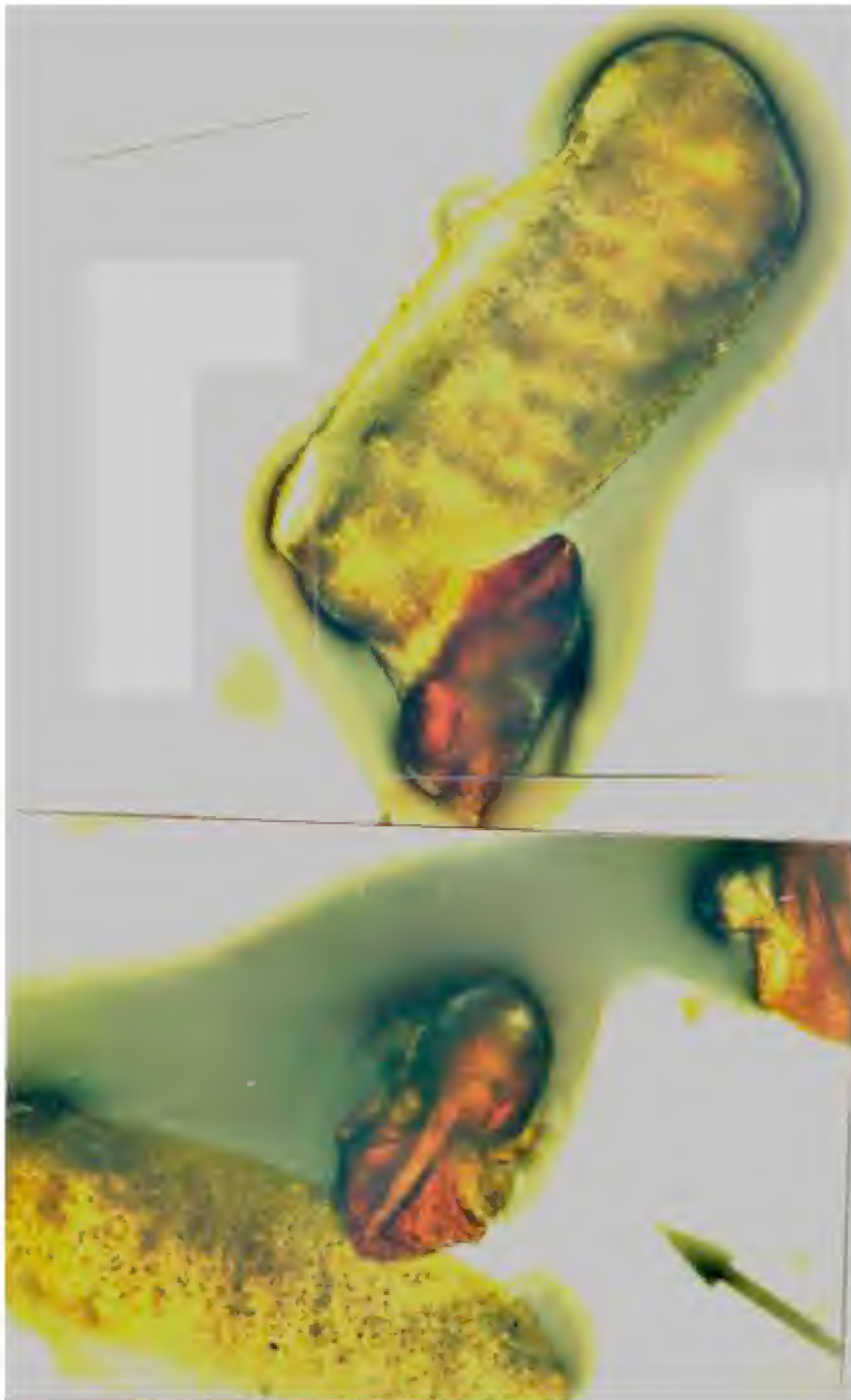


Bottom view of the corona enlarged about 8x. Lobes are very plump, channeled to near sinuses, Anther wings with broad sides and prominent, outer apex subacute. Thickened central column.

Apex – apex	0.40 cm
Apex – center	0.44 cm
Widest	0.24 cm
Aw. – aw.	0.20 cm



Top view of the corona enlarged about 8x. Inner lobes do not quite reach the center, are extended round to sub spatulate. Dorsal beyond inner lobe concave with a pair of small forward umbos and a raised center toward outer apex.



Composite Photos of
the pollinarium here
and below.

Pollinium

length 0.80 mm

widest 0.32 mm

Retinaculum

length 0.38 mm

Pollinia inner end
type: RT

Retinacula: RH

Translator/caudicle
type: ls/o

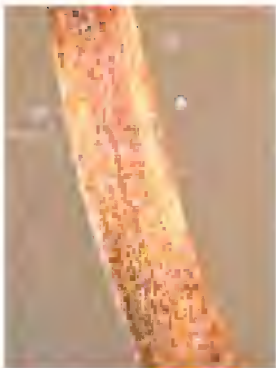


Hoya mindorensis subsp. philippinensis Kloppenburg 2018

ISSN 2329-7336

Hoya mindorensis subsp. philippinensis Kloppenburg subsp. nova, holotypus 61933 (CAHUP) hic designatus. Similis sp. sed pedicilis longior 2.0 cm contrastre 1.5 cm et sepala non ciliatus ovatis; corolla diametro complanatus brevior 0.5 cm contrastre 0.9 cm, differt. In addition the pollinia here is not as in Dr. Schlechter's drawing.

Here again we have a species that is highly variable, many color variations that also have many differences in the flower parts. This subspecies differs from Dr. Schlechter's type in that the sepals here are shorter. The pedicels here are longer 2.0 cm vs. 1.5 cm, also here the corolla flattened is only 0.50 cm in diameter vs. 0.90 cm inside.



Pedicel: enlarged about 16x. 2 cm long 0.09 cm in diameter, curved, terete, glabrous, enlarging as it approaches the calyx.



Calyx: enlarged about 16x. Sepals are 0.16 cm long and at the base 0.15 cm wide with a slight overlap, thickened in the center and ciliate otherwise glabrous, outside granulose.

Ovaries: are columnar 0.13 cm tall and base pair 0.12 cm wide, glabrous drying dark in color.

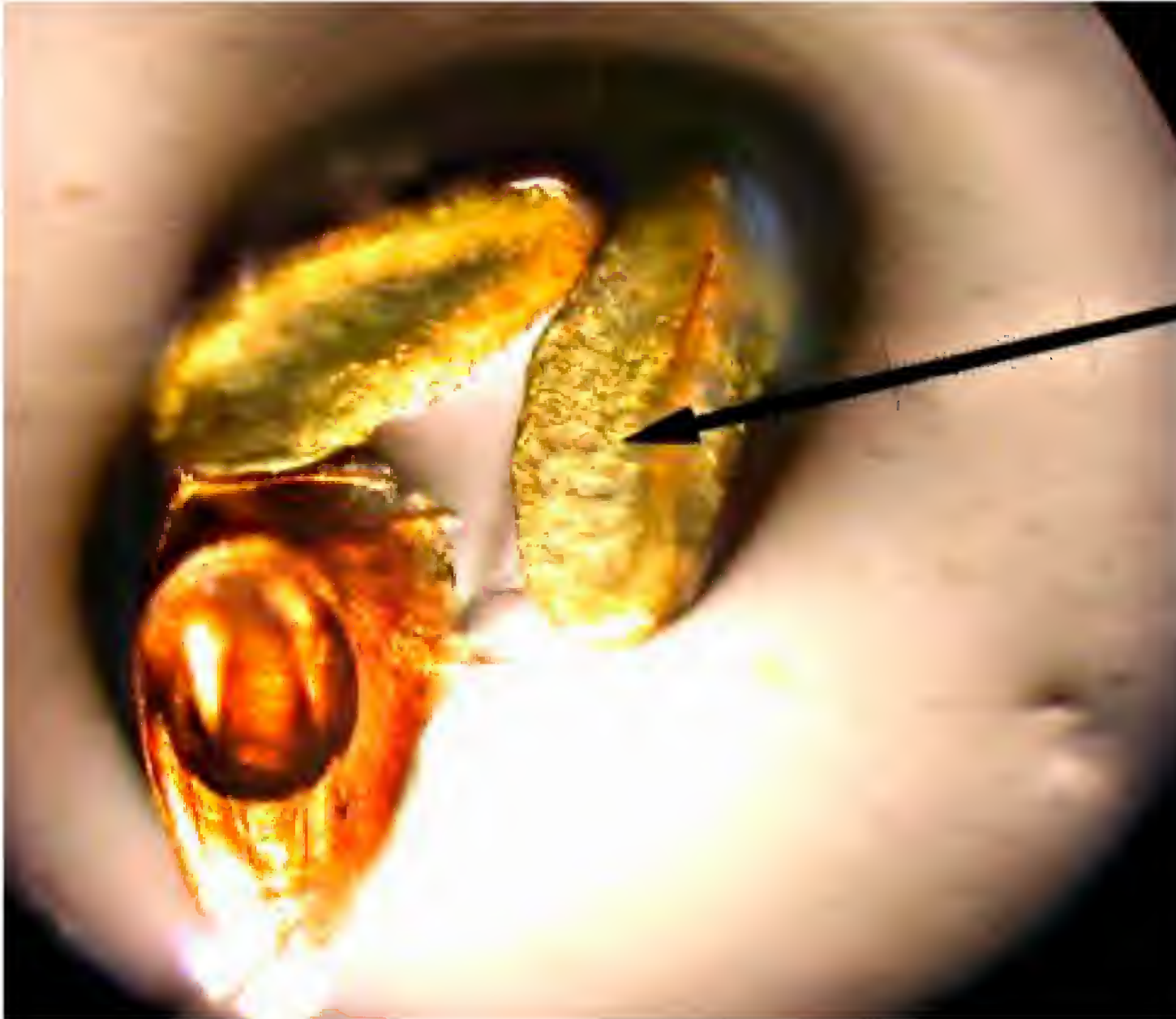


Bottom (outside) view of the flower enlarged about 8x. Ends and sides of the corolla lobes turn under are dark in color dried, center greatly thickened, with a collar protruding outward 0.04 cm long.

Sinus – sinus	0.25 cm
Sinus – center	0.25 cm



Inside (top) view of the flower enlarged as above. The coronal lobes are sharply keeled above and touch in the center. Here the anthers are not compressed and creped between the lobes but have loosened up and expanded. They are thin membranous 0.15 cm long and at the base 0.12 cm wide. The coronal lobes exceed the corolla sinuses. Corolla inside pubescent.



Pollinarium enlarged about 165x.

Pollinium

length	0.63 mm
widest	0.29 mm
ext	0.05 mm

Retinacula

length	0.55 mm
shoulder	0.25 mm

Translator

length	0.30 mm
depth	0.03 mm

Caudicle

bulb. diam 0.07 mm

Translator/caudicle type: ls/o

Pollinia inner end type: R

Measurements difficult, pollinium of different width possibly the one on top is folded a little. Retinaculum globose and hard to discern features. The translators appear to twist as they exit the retinaculum.

Hoya pseudobicolensis Kloppenburg 2018

ISSN 1655-3179

Hoya pseudobicolensis Kloppenburg sp. nova, holotypus 5294 (CAHUP) hic designatus. Similis *Hoya bicolensis* sed foliis ellipticus et apicie apiculatis non ovato & apice subacuminatus, aliis partibus breviora. Corolla diametro complanatus brevior autem pollinia iam 0.40 mm-0.42 mm contrastre 0.35 mm, differt.

This new sp. is similar to *Hoya bicolensis* Kloppenburg, Siar & Cajano 2014 and *Hoya camphorifolia* Warburg 1904 but the foliage is different. Most parts are smaller except the pollinia are longer.

Collected by Blass Hernaez on 17 March 1990, UP Landgrant, Quezon, Philippines. .

Determination: closest to *Hoya bicolensis* Kloppenburg & Siar but possibly in Sect. Otostemma sp.

Internodes: 5.5 – 10 cm. long

Foliage: elliptic apiculate apex acute, base slightly rounded, glabrous, triplinerved, blade 7.8-12.6 x 3.5 – 5.4 cm.; petiole 2.7 cm. long glabrous.0.90 cm contrastre 0.94 cm,

Peduncle: extremely short here with rachis fasciculate.

Photo and data 3/29/99.

Pedicel: filiform, terete, glabrous 1.0 cm long 0.05 cm diam.

Calyx: short, broad, triangular sepals, ciliate, outside surface granulate, glabrous.

Ovaries: dome shaped 0.07 cm tall and base pair 0.05 cm wide, glabrous.



Flower, corolla dark, with corona in center sitting atop a column, flowers very small appear to be in Section Otostemma. Outer lobes raised above the center, dorsal surface sway backed with center raised, outer apex rounded, thin, prominent anther wings. Inner lobes round (dentate?) sloping outward, dorsal with central ridge.

Sinus – sinus	0.18 cm
Sinus – center	0.15 cm
Sinus – apex	0.30 cm
Apex – center	0.45 cm
Widest	0.25 cm

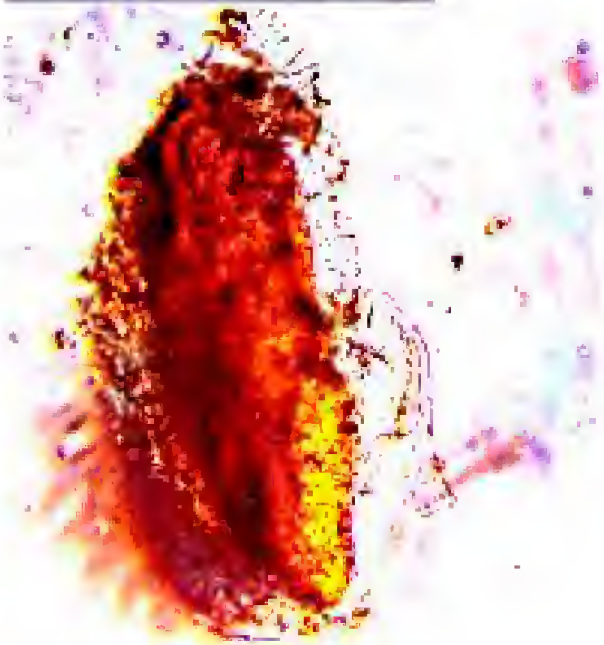


Another view of the corona. Photos do not show much detail and are of little value.



Retinaculum and extensions well developed, inner apex rounded, with translator on left side attached well down on side.

I can not determine measurements as I have no scale showing in photo. Elongated head and also long lower extensions. Translator connected low at the waist area.



Pollinium has germinated, apex rounded inner apex narrowing and also obtuse.

It is 0.42 mm. long and ca. 0.15 cm at the widest.



Another photo of a pollinarium. Here the pollinium seems to measure 0.40 mm. long and 0.16 mm at the widest.

Retinaculum turned on its side is ca. 0.20 mm long.

Hoya sp. Holotypus
CAHUP #5294



Hoya obscura subsp. lagunaensis Kloppenburg 2018

ISSN 2329-7336

as *Hoya obscura* Burton. Photos 14 November 2006

Hoya obscura subsp. lagunaensis Kloppenburg subsp. nova, holotypus 5268 (CAHUP) hic designatus. The type description of the species as in many early descriptions says little about the pollinaria. However here most parts are different. The pedicel here is 1.8 cm long vs. 1.0 cm both are 0.09 cm in diameter, the calyx is smaller 0.13 cm vs. 0.15 cm also the ovaries smaller 0.12 cm tall vs. 0.16 cm also the stylar column (often in the past referred to as the stigma) are columnar not capitate and the corolla is here 1.0 cm in diameter flattened vs. 0.7 cm. The pollinia which in this genus is the most stable character over time and different environments (given little attention in the past) the pollinia here are 0.45 mm long vs. 0.04 mm and the **Translator/caudicle type**: l/cw. And the pollinia inner ends are tapered which is different then the type material of the species.



Pedicel: enlarged about 8x, 1.8 cm long 0.04 cm in diameter, terete, glabrous-granulate.



Calyx: enlarged about 8x, sepals are ovate ciliate 0.13 cm long and 0.06 cm at the widest, reach ca. ½ way to the corolla sinuses.

Ovaries: columnar nearly bottle shaped 0.12 cm long, 0.06 cm wide at the base pair, glabrous.



Outside view of the flattened corolla enlarged about 8x. Surface is glabrous granulate. Center thickened around central collar. Apex of lobes acute.

Sinus – sinus	0.26 cm
Sinus – center	0.23 cm
Sinus – apex	0.35 cm
Apex – center	0.50 cm
Widest	0.27 cm



Inside surface of the corolla enlarged about 8x. Surface is puberulent. Note the central thickened ring and less indumentum here.

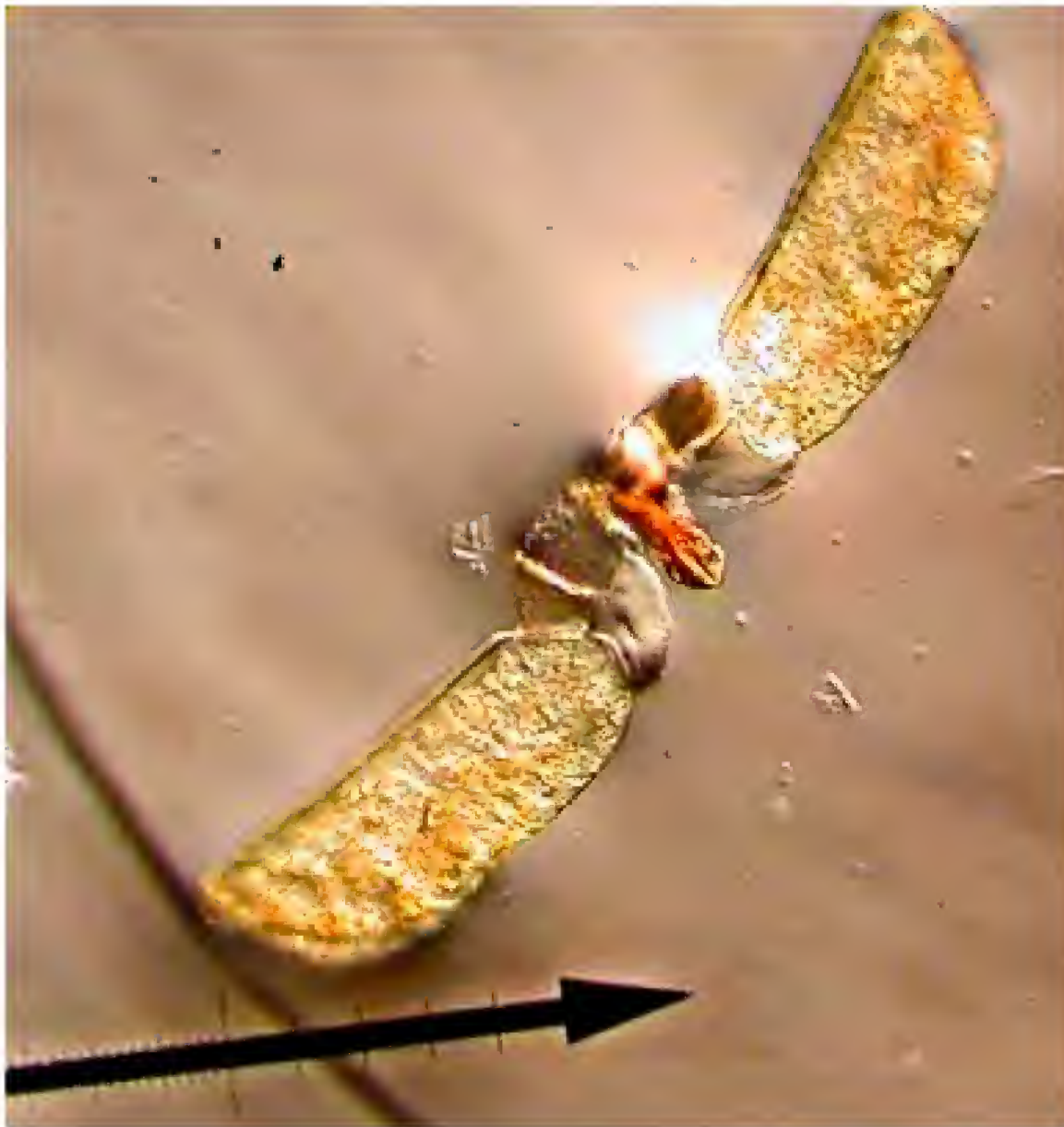


Bottom view of the corona enlarged about 8x, this is an *Otostemma* Section *Hoya* sp. and difficult to get a good view from the herbarium flower. All surfaces were glabrous.



Top view of the corona. Inner lobes are acute thin spatulate, a little longer than the anthers but not covering the center. Crown in upright, outer lobes are thin with a rounded, apex. outer lobes $\frac{3}{4}$ way to corolla sinuses. No measurements of these parts.

Pollinarium greatly enlarged, spread out as it was difficult to get it to lay properly.



Pollinium

length	0.45 mm
widest	0.14 mm

Retinaculum

length	0.10 mm
shoulder	0.05 mm
waist	0.03 mm
hip	0.05 mm
ext.	0.03 mm

Translators

length	0.17 mm
depth	0.05 mm

Caudicle	Type: C
bulb diam.	0.07 mm

Translator/caudicle type: l/cw

Pollinia inner end type: T



Pollinarium enlarged about 165x. The caudicles are prominent and bulbous, non structured. Translators are wide and long, pollinia truncate at inner end and pellucid edge does not extend to the base of the pollinium.

Labeled *Hoya obscura* Elmer ex Burton 1986
CAHUP #5268

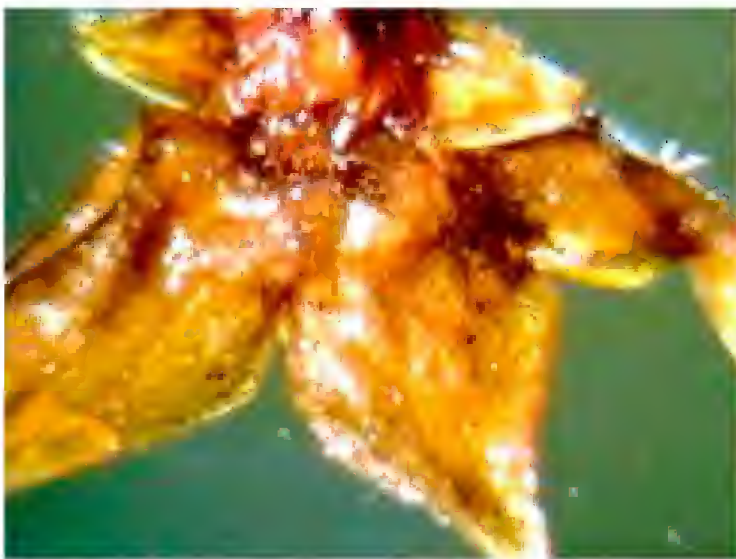


Hoya densifolia subsp. panchoi Kloppenburg 2018

ISSN 2329-7336

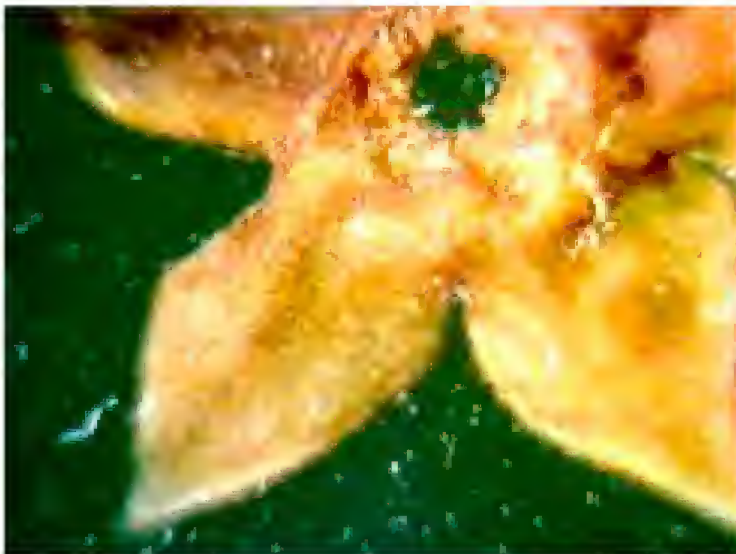
Hoya densifolia subsp. panchoi Kloppenburg subsp. nova. Holotypus 18680 (CAHUP) hic designatus. This new species is certainly not *Hoya cumingiana* Decaisne, the foliage would indicate it is more like *Hoya densifolia* Turczaninow, however it does not conform to that description either. Here the pollinia lobes are shorter than either of the other two species. Since the corolla and corona are somewhat like *Hoya densifolia* I am making it a subspecies of that species. Below is all the data and measurements I could assemble.

No pedicels nor calyx present.



Side view of the flower enlarged about 8x. Corolla reflexed, inner surface pubescent, outer glabrous. Corona raised in the center and outer lobes bent at nearly right angles.

Sinus – sinus	0.22 cm
Sinus – apex	0.45 cm
Apex – center	0.60 cm
Widest	0.32 cm



Inside view of the corolla with coronal removed enlarged about 8x. Deeply cut with apices acute. Surface is pubescent with the center sunken under the corolla and lined with stiff hair cells pointing centrally.

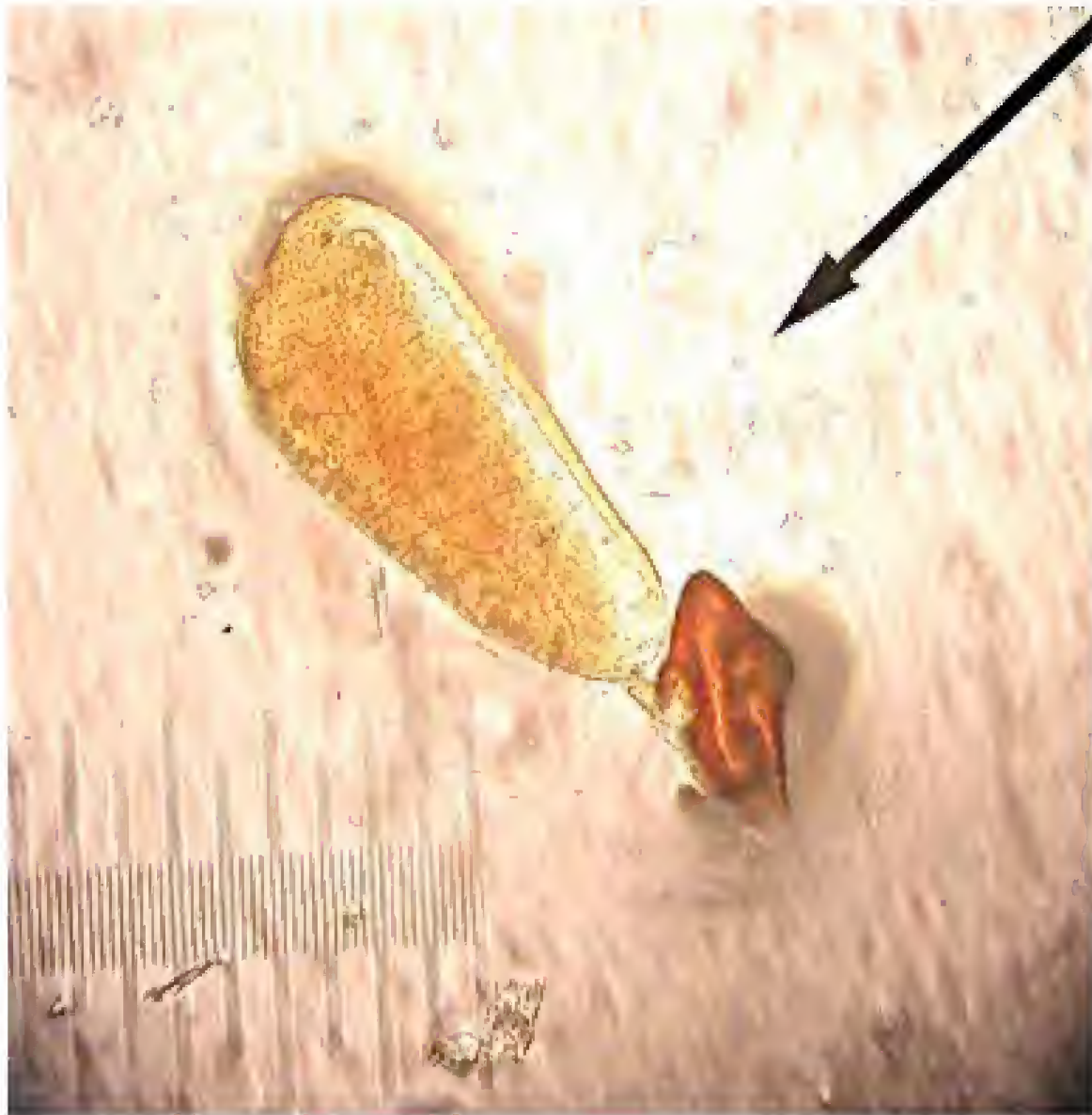


Side view of the corona enlarged about 16x. Inner lobes are sharply raised and spatulate. the dorsal surface has a keel from inner apex to the bend in the center, concave and edges sharp in this dry state. Outer apex is mucronate and somewhat blunt. Surfaces are glabrous. Scale relatively thick and channeled below all the way to the central elongated column. scale as is 0.22 cm long, top is 0.08 cm at the widest.



Bottom view of the corona with some scales missing enlarged about 16x.

Pollinarium enlarged about 165x.



Pollinium

length 0.55 mm
widest 0.23 mm

Retinaculum

length 0.22 mm
shoulder 0.14 mm
waist 0.08 mm
hip 0.10 mm
ext. 0.03 mm

Translators

length 0.07 mm
depth 0.02 mm

Caudicle bulb diameter
0.07 mm

Translator/caudicle
type: ls/o

Pollinia inner end type: R Retinaculum Type: S

Leaves look like *H. densifolia*, the Pollinarium does not fit either species, as is the pollinia are much shorter.

Labeled incorrectly *Hoya cumingiana* Decaisne 1844
CAHUP #18680



Hoya baguioensis subsp. hernaезii Kloppenburg 2018

ISSN 2329-7336

Hoya baguioensis subsp. hernaезii Kloppenburg, subsp. nova, holotypus 5293 (CAHUP) hic designatus. Similis sp. sed pedicel longiora 2.0 cm vs. 1.8 cm; calyces segmentis triangularis, glabris, apice sub-rotundatus 0.10 cm longis et 0.10 cm latis similis species, corolla grandiora 1.0 cm complinatus contrastre 0.80 cm. Pollinaria similes sed retinaculum Typus HU contrastre S. (HU hands up and S equals shield like), differt

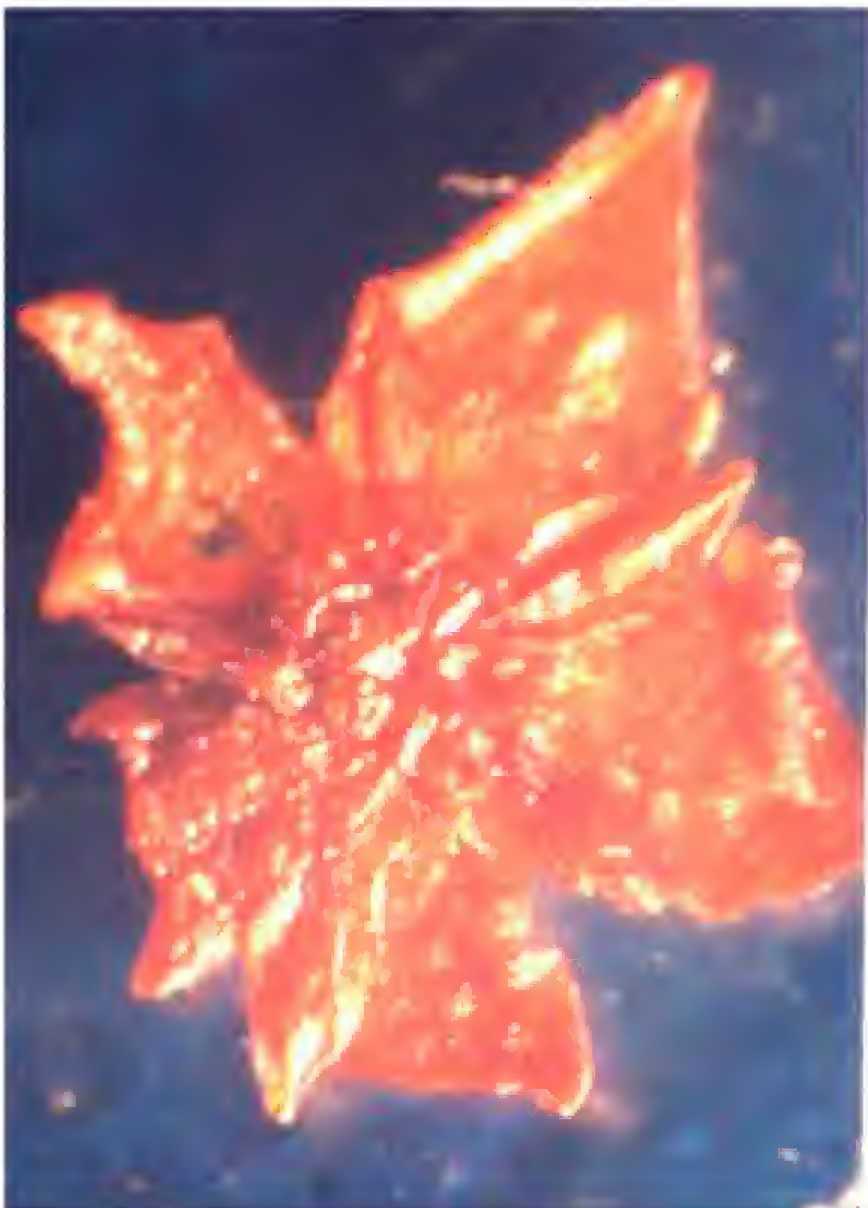
Collected by P. F. Hernaez on 17 March 1990. Studied by me on 3/29/99. Flower looks red, reddish peduncle. Leaf with rounded base, narrowly ovate tapering to narrow blunt apex, pinnately nerved pinnate 10.4 - 15.2 cm long x 3.4 – 6.4 cm widest.

Details follow:



Calyx outside view. Sepals are centrally thick, granulose surface, broad triangular. Do not reach the corolla sinuses. 0.10 cm long base 0.10 wide.

Ovaries short conic. Wide at the base.



Top view of the flower enlarged about 16x. Corolla deeply cut, apex acute.

Sinus – sinus	0.17 cm
Sinus – center	0.18 cm
Sinus – apex	0.38 cm
Apex – center	0.50 cm
Widest	0.28 cm

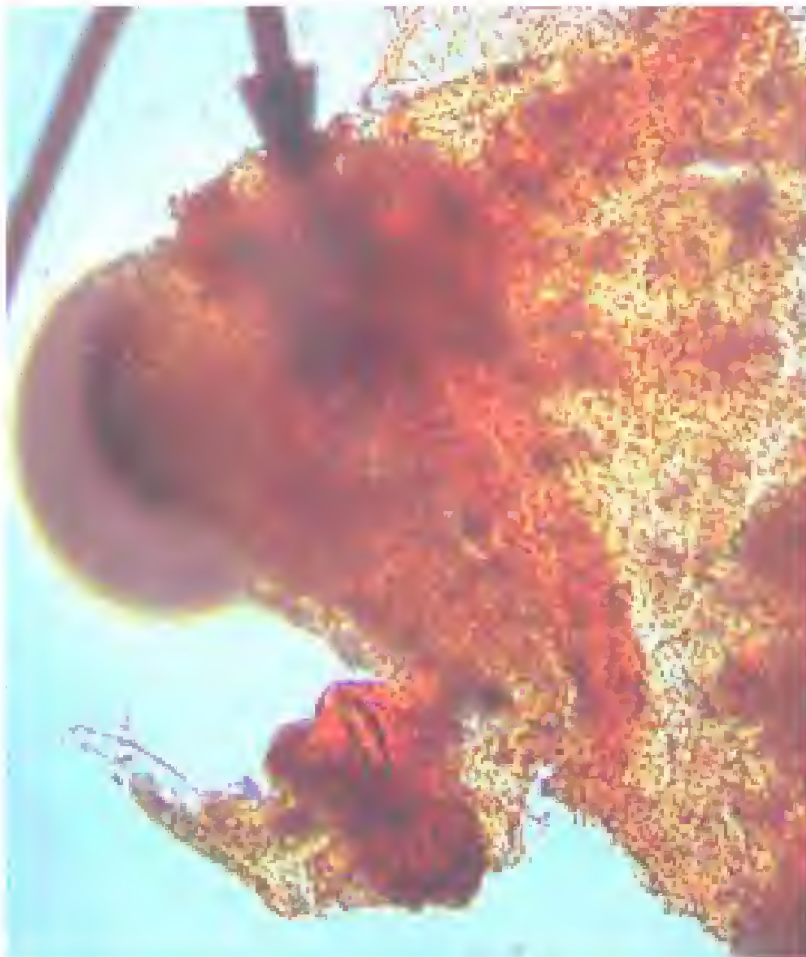
Corona exceeds the corolla sinuses, narrow oval shaped scales, dorsal keeled, outer apex acute, inner short dentate. 0.30 cm long.



Pollinarium, but only one pollinium intact.

Pollinium

length	0.37 mm
widest	0.16 mm



Retinaculum

length	0.19 mm
shoulder	0.15 mm
waist	0.09 mm
hip	0.10 mm
ext	none here

Translators

length	0.15 mm
widest	0.08 mm

Pollinia inner end type: T

Translator/caudicle type: ls/o

Retinacula type: S

Stems: terete, glabrous, internodes 10-12 cm long.

Peduncle: on this sheet below 2.0 cm long.

Foliage: ovate, apiculate acute, base obtuse nervation pinnate 10.4 - 15.2 cm long x 3.4 – 6.4 cm widest.

Holotypus CAHUP #5293



Hoya nova Kloppenburg 2018

ISSN 2329-7336

Hoya nova Kloppenburg, sp. nova, holotypus 63826 (CAHUP) hic designatus. Similis *Hoya odorata* Schlechter sed differt, pedicellis 2.0 cm et puberulosa, et calycis segmentis linearibus, apicie rotundis et 0.12 cm longis vs. lanceolato-oblongis obtusis, margine sparsim ciliatis, 0.2 cm longis; et corolla 1.2 cm diametiente complinatus vs. 1.7 cm. Corollae lobus horizontalibus sed et erectis centrum, et 0.3 cm longis vs. 0.4 cm differt. Pollinaria unique for its unusual retinacula and having a pollinia length of 0.38 mm with a p/o type translator/caudicle. See below.



Pedicel enlarged about 8x. It is 2.0 cm long, strict, terete, appears glabrous but under high power magnification is puberulous-granulose.



Side view of the pedicel and calyx enlarged about 16x. Sepals are centrally thickened outside surface granulose, inside slick glabrous, 0.12 cm long 0.06 cm wide at the base, I did not find any ligules, edges with a few short cilia, sepals reach about $\frac{3}{4}$ way to the sinuses of the deeply cut corolla.

Ovaries are short domed shaped, glabrous 0.09 cm tall and base pair 0.09 cm wide.



Outside surface of the flower enlarged about 8x. Surface of the corolla is glabrous and deeply cut.



Inside surface of the corolla enlarged about 8x. Surface is finely puberulent or granulose. Collar a little thickened and dries a darker color.

Sinus – sinus	0.25 cm
Sinus – center	0.23 cm
Sinus – apex	0.27 cm
Apex – center	0.60 cm
Widest	0.30 cm



Top (inside) view of the flower enlarged about 8x. Coronal lobes exceed the deeply cut corolla sinuses. Two flowers did not have the stylar table intact.



Bottom view of the corona enlarged about 8x. (one lobe missing); lobes are channeled to near the thickened central column, rolled sides are finely diagonally sulcate. Outer lobes are acute. Surfaces are glabrous.



Top view of the corona enlarged about 8x. Inner apices are dentate and nearly touch in the center, outer lobe is tapered acute, dorsal is slightly concave with a raised rounder center narrower toward the inner lobe.

Apex – apex	0.30 cm
Widest	0.19 cm
Ret. ret.	0.06 cm
Ret – center	0.05 cm
Aw. – aw.	0.15 cm
Aw. – center	0.15 cm



Side view of a scale enlarged about 16x. Note here the outer lobe has a lower extension that makes the apex appear obtuse and not strictly acute.



Pollinarium enlarged about 165x. Ratio: ret/poll 1.8; poll/width 2.5

Pollinium

length	0.38 mm
widest	0.15 mm

Retinaculum

length	0.16 mm
shoulder	0.07 mm
waist	0.03 mm
hip	0.07 mm
ext.	0.05 mm

Translators

length	0.05 mm
depth	0.02 mm

Caudicle bulb. diam. 0.05 mm

Translator/caudicle type: p/o

Pollinia inner apex type: R

Type: 2S

Holotype CAHUP #63826



Hoya infantalensis Kloppenburg 2018

ISSN 2329-7336

Hoya infantalensis Kloppenburg sp. nova, holotypus 14597 (UF 769) (CAHUP) hic designatus. Collected by Ulissis Ferreras at Infantil, Philippines July 2010. Thought to be *Hoya pubicalyx* Merrill but differs in many ways. Leaves similar but longer in general, this could be due to the environment. The pedicel here mostly glabrous not pubescent. Sepals are shorter and wider; corolla is different, lobes longer also the coronal lobes are longer and different in shape and dimensions. The pollinia is entirely different from our selected material see measurements and photo of parts below.

Two flowers in small zip bag July 2010

Hoya pubicalyx ? (No)



Pedicel: Enlarged ca. 50x. Is curved, terete, 3.7 cm long, a few hair cells, 0.07 cm in diameter, slightly enlarged toward the calyx area.



Calyx: outside surface enlarged ca. 21x. Sepals outside are pubescent, hair cells mostly pointing apically.



Calyx inside surface is granulate glabrous, Sepals with ca. $\frac{1}{4}$ basal overlap, ligules present, sub triangular in shape 0.37 cm long and 0.20 cm at the widest.

Ovaries: columnar, glabrous 0.18 cm. tall and base pair 0.10 cm wide.



Corolla: ventral surface enlarged ca. 12x
this surface is granulate, glabrous.

Sinus – sinus	0.72 cm
Sinus – center	0.63 cm
Sinus – apex	0.70 cm
Apex – center	1.07 cm
Widest	0.77 cm



Corolla inside (dorsal) surface enlarged ca. 12x at the sinus area. This surface is densely pubescent except for a small apical area.

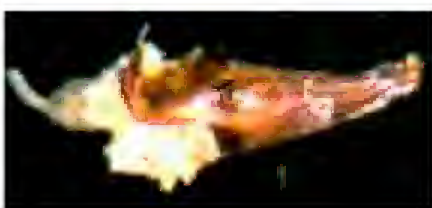


Bottom view of the corona, the lobes are channeled to near the thickened central column that is ca. 0.05 cm. tall. Anther wings are thick rounded sides do not protrude. Enlarged ca. 8x.



Dorsal surface of the corona, inner lobes overtop the center but long membranous clear anthers show in center, lobe is tapered sub spatulate acute and touches in center. Dorsal is keeled down center edges sharp, apex acute.

Apex – apex	0.62 cm
Widest	0.28 cm
Ret. – ret.	0.12 cm
Ret. – center	0.10 cm
Aw. – aw.	0.30 cm
Aw. – center	0.27 cm



Side view of a coronal lobe enlarged ca. 16x. The surface is horizontal with inner lobe raised slightly (here bent back on daring, normally overtopping the white anther) here to left. Scale is thin and elongate, outer apex splits on drying.



Pollinarium enlarged ca. 130x.

Pollinarium

length	0.86 mm
widest	0.25 mm

Retinaculum

length	0.34 mm
shoulder	0.20 mm
waist	0.09 mm
hip	0.10 mm

Translator

length	0.14 mm
depth	0.02 mm

Caudicle

bulb diam.	0.10 mm
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The Retinaculum has reflexed shoulders not shown here, translators appear to be perpendicular. Germinal edge runs well down on Pollinium to near the Caudicle area.

Holotypus



UF 769	Leaf 1	Leaf 2	Leaf 3	Leaf 4
Leaf Length	8.7	12	11	17
Leaf Width	3.5	4	4	3.5
Petiole	1	1.4	1.2	1.4
Peduncle	15			
Stem Diameter	0.3			

Hoya sarawakensis Kloppenburg

ISSN 2329-7336

Hoya sarawakensis Kloppenburg sp. nova, holotypus PNH 806 hic designatus.
 . Foliis undulates 6.5- 9 cm longis, glabris, basi obtusis et apice acutis, pinnata nervature,
 pedicellus glabre 0.9-1.0 cm longus. Calycis segmentis ellipticus; corolla 5-fid, exits
 glabra intus pubescentus lobus penitus interrfficiam 0.92 cn cm diametro complanatus.
 Coronae lobis 0.25 cm longa, lobis horizoneealis. See Pollinia data below for details. .

Collected by native 28 Oct. 1993. Sarawak, Borneo, Malamg Road, Gandau, Kungil.

Leaf: blade undulant 6.5 cm -9 cm long, base obtuse, apex acute, glabrous, pinnate
 nervation.



Pedicel and calyx enlarged about 8x. No measurements made of
 calyx.

Pedicle: 0.9 – 1.0 cm x 0.4, glabrous, terete.



Corolla enlarged about 8x. outside surface
 glabrous, inside finely pubescent, lobes unusually
deeply cut, extended collar.

Sinus – sinus	0.18 cm
Sinus – center	0.14 cm
Sinus – apex	0.35 cm
Apex – center	0.46 cm
Widest	0.24 cm



Corona enlarged about 8x. Dorsal is horizontal, sulcate. a
 column below 1.0 cm tall, yellow colored. Inner apex short,
 channeled below, outer apex tapering acute. Scales thick 0.10 cm

Apex – apex	0.25 cm
Apex – center	0.27 cm

Widest	0.09 cm
Ret. – ret.	0. 07 cm
Aw. - aw.	0.11 cm

Pollinarium, retinaculum round like a helmet, pollinia withered.



Pollinium

length	0.68 mm
widest	0.30 mm

Retinaculum

length	0.45 mm
widest	0.25 mm
ext.	0.10 mm

Caudicle: G
(granulate)

Translator/caudicle type: l/r

Pollinia inner end type: R

Pollinarium enlarged about 165x. Measure scale above 0.1 mm between long lines.

Hoya garciai Kloppenburg

ISSN 2329-7336

Hoya garciai Kloppenburg sp. nova, holotypus 5733 (PNH) hic designatus, similis *Hoya pentaphlebia* Merrill sed foliolis breviora thick, 0.2-0.3 cm 7 x 4.8 cm subcordata (7 basal nerves), nervis palmata apex acutus. 5- 9 cm longis. glabris, basi obtusis et apice acutis, pinnata nervature. Calycis segmentis triangularibus; corolla 5-fid, exits glabra intus pubicentus, lobus penitus interrfficiam 1.5 cm diametro complanatus. Coronae lobis 0.33 cm longa, lobis horizoneealis. See Pollinia data below for details. .

Collected by Barbon, Garcia & Sagcal at Samar Brg. Inuntan, Basey, 29 Jan 1992
studied 5 Nov. 1993.

Scales like *H. pentaphlebia* but leaf very small for that species.

Leaves: thick, 0.2-0.3 cm 7 x 4.8 cm base obtuse to subcordate (7 basal nerves), palmate nerved apex acute.

Petiole: long 3 cm twisted.

Nodes: slightly enlarged 0.5 cm in diameter.

Peduncle: 3 cm long, glabrous, strict to sub-curved.

Rachis: cylindric fine texture.

Follicles: 17 cm long, slightly curved.



Side view of a pedicel and calyx. enlarged about 8x. Pedicel is 4 + cm long x 0.06 cm in diameter, glabrous, terete enlarging toward calyx. 15 + flowers.

Calyx; small outside granulate inside slick, smooth, 0.09 cm long x 0.08 at the base. edges with a few cilia.

Ovaries cone shaped, glabrous 0.07 cm tall and base pair 0.08 cm wide.



Outside view of the corolla enlarged about 8x, surface is glabrous, lobe apices acute. Sepals very far from reaching the corolla sinuses.

Inside view of a flower enlarged about 8x, corolla inside is finely pubescent, coronal lobes just reach the sinuses.

Sinus – sinus	0.37 cm
Sinus – center	0.31 cm
Apex – center	0.75 cm
Widest	0.52 cm



Corona: inner lobes long pointer (dentate) dorsal with a longitudinal keel, outer lobes acute emarginate due to narrow side lobes.

Apex – apex	0.33 cm
Apex – center	0.36 cm
Widest	0.14 cm
Ret. – ret.	0.06 cm
Ret. – center	0.07 cm
Aw. – aw.	0.14 cm
Aw. – center	0.13 cm



Bottom view of the corona enlarged about 8x, lobes are channeled somewhat open toward the sinuses, central area clear with a raised central column. There is a raised ring under the corona with ciliate edges.



Pollinarium enlarged
about 150x.

Pollinium
length 0.47 mm
widest 0.16 mm

Retinaculum
length 0.18 mm
shoulder 0.15 mm

Translators
length 0.10 mm
depth 0.02 mm

Caudicle
bulb diam. 0.07 mm

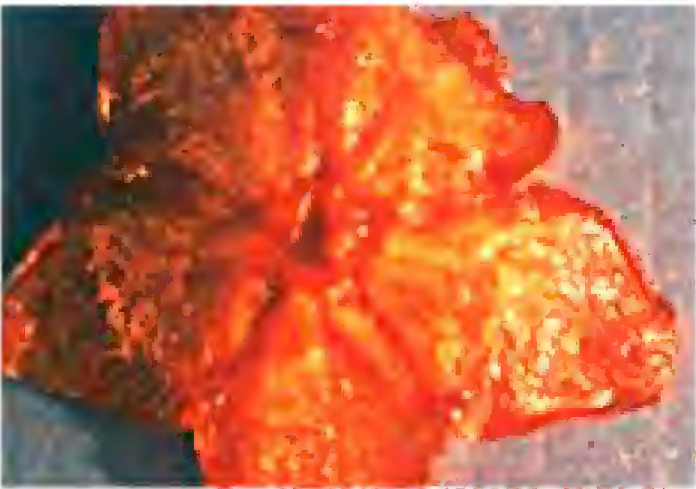
Translator/caudicle
type: ls/o

Pollinia inner end
type: T

Hoya mcclureii Kloppenburger
ISSN 2329-7336

Hoya mcclureii Kloppenburger sp. nova, holotypus 7889 PNH hic designatus. This new species collected by McClure near Taoi Tseng, Hainan on 24 October 1921 is very different than *Hoya hainanensis* Merrill 1923. Here the corolla is 1.16 cm on diameter as opposed to 0.8-1.0 cm in diameter. Here the coronal lobes do not reach the corolla sinuses and have a central umbo as opposed to a central keel. In addition here the pollinia are 0.53 mm long vs. 0.10 mm and also the interior lobe ends are flat vs. rounded. See details below.

Peduncle: none

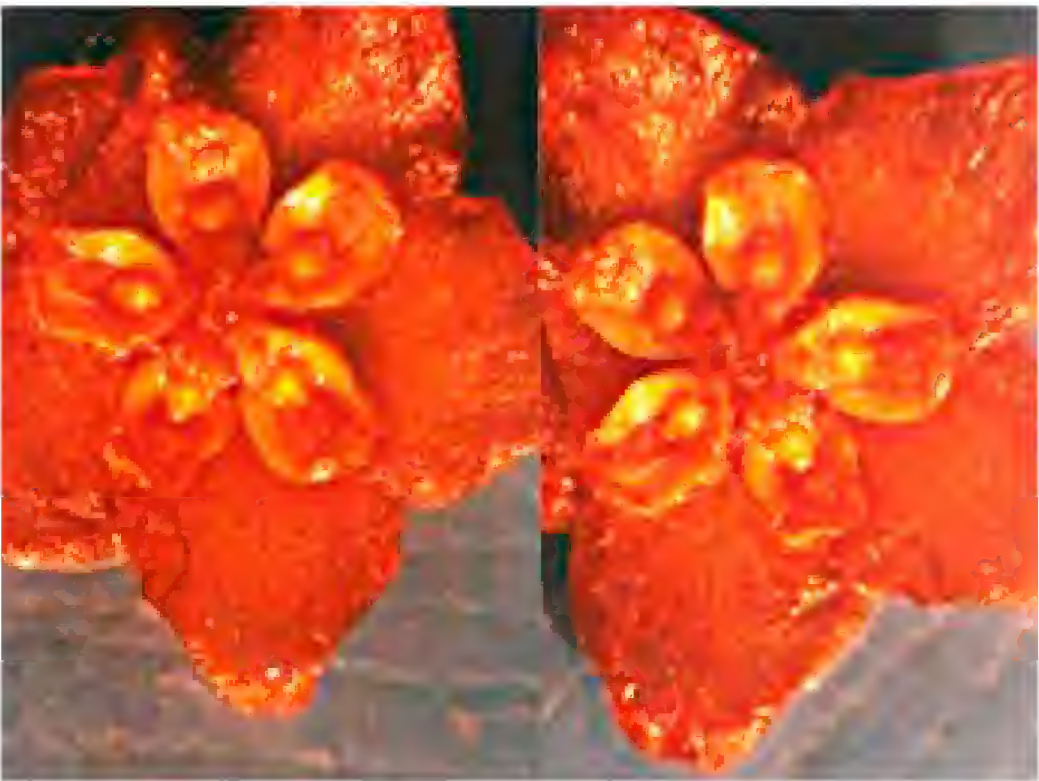


Corolla: outside enlarged about 8x. Apices and edges rolled back, outside glabrous, inside pubescent. Sinuses sub-conduplicate.

Sinus – sinus	0.38 cm
Sinus – center	0.34 cm
Sinus – apex	0.40 cm
Apex – center	0.58 cm
Widest	0.42 cm



Bottom view of the corona enlarged about 16x. Lobes are channeled just in from the sinuses, center column is prominent, outer lobes are obtuse, lobe surfaces sulcate.



Top view of two flowers enlarged about 8x. Corolla inside is pubescent, coronal outer lobes do not reach the corolla sinuses, are obtuse, dorsal is concave with a umbo forward, inner lobes do not reach the center and are short, dentate.

Apex – apex	0.24 cm
Apex – center	0.26 cm
Widest	0.16 cm
Ret. – ret.	0.07 cm
Aw. – aw.	0.15 cm



Side view of a coronal scale enlarged about 16x, there is a narrow shelf along the bottom of the scale, outer apex raised a little inner apex more so. Scale thickness at base of inner lobe is 0.10 cm, and distance from outer apex to area below inner lobe is 0.20 cm.



Pollinarium enlarged about 165x. and a retinaculum in a little better detail

Pollinium		Inner end type: P (flat)	
length	0.53 mm		
widest	0.20 mm		
Retinaculum		Type: S	
length	0.27 mm		
shoulder	0.10 mm		
waist	0.05 mm		
hip	0.06 mm		
ext.	0.03 mm.		
Translators		Translator/caudicle type: ls/o	

length ca. 0.10 mm
depth 0.03 mm

Caudicle bulb diam. 0.05 mm ca.

Hoya negrosensis Kloppenburg

ISSN 2329-7336

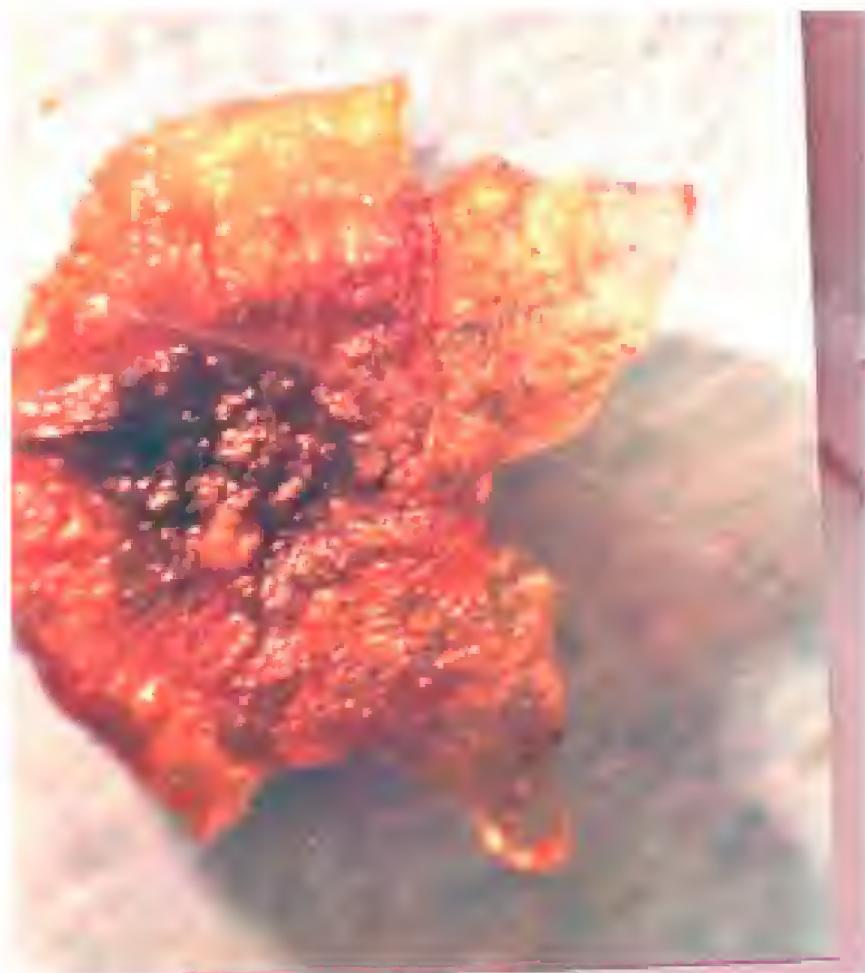
Hoya negrosensis Kloppenburg sp. nova, holotypus 6377 PNH hic designatus. Collected by Ben Stone on Canaloan, Negros, Philippines. Roll 244 4/3/99. Sheet is labeled *H. bordenii* Schlechter. This is incorrect as that species is in the Section Acanthostemma, this specie is not. Here the calyx is 0.15 cm long and 0.14 cm at the widest and rounded versus 0.12 x 0.09 cm, and triangular. The corolla here is 0.90 cm in diameter versus 0.84 cm, See below for more details.



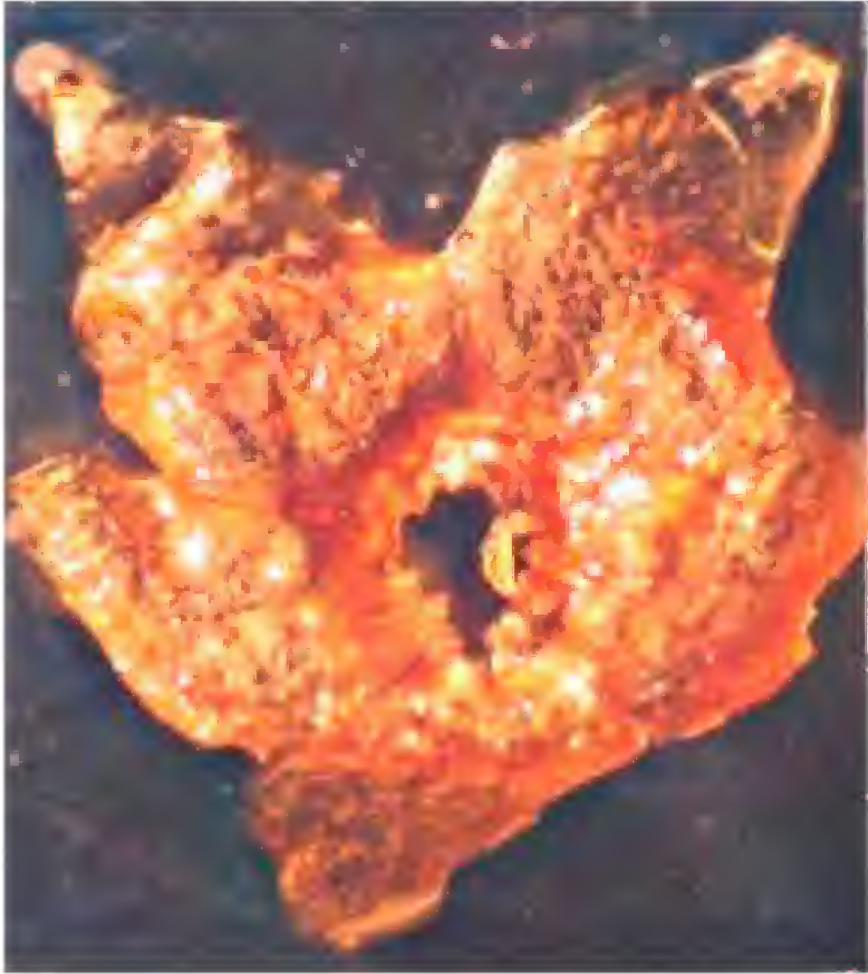
Side view of the pedicel, calyx and ovaries.

Pedicel: 2.2 cm. long, 0.08 cm in diameter, curved, terete, glabrous, light colored.

Calyx: apex narrowly rounded, 0.15 cm. long, 0.14 cm at the widest, overlap about 1/3 at the base, membranous, ligules present.

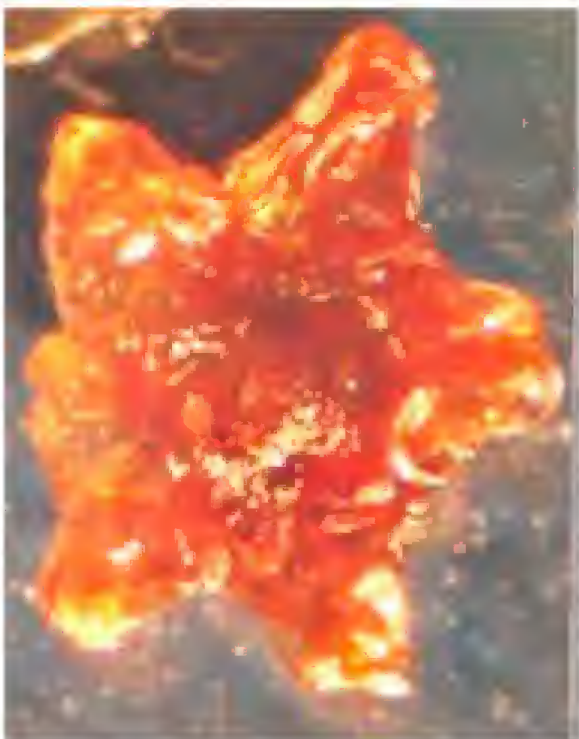


Outside surface of the corolla enlarged about 16x. Surface is granulose and glabrous, central region thickened. Corolla cut about half way.



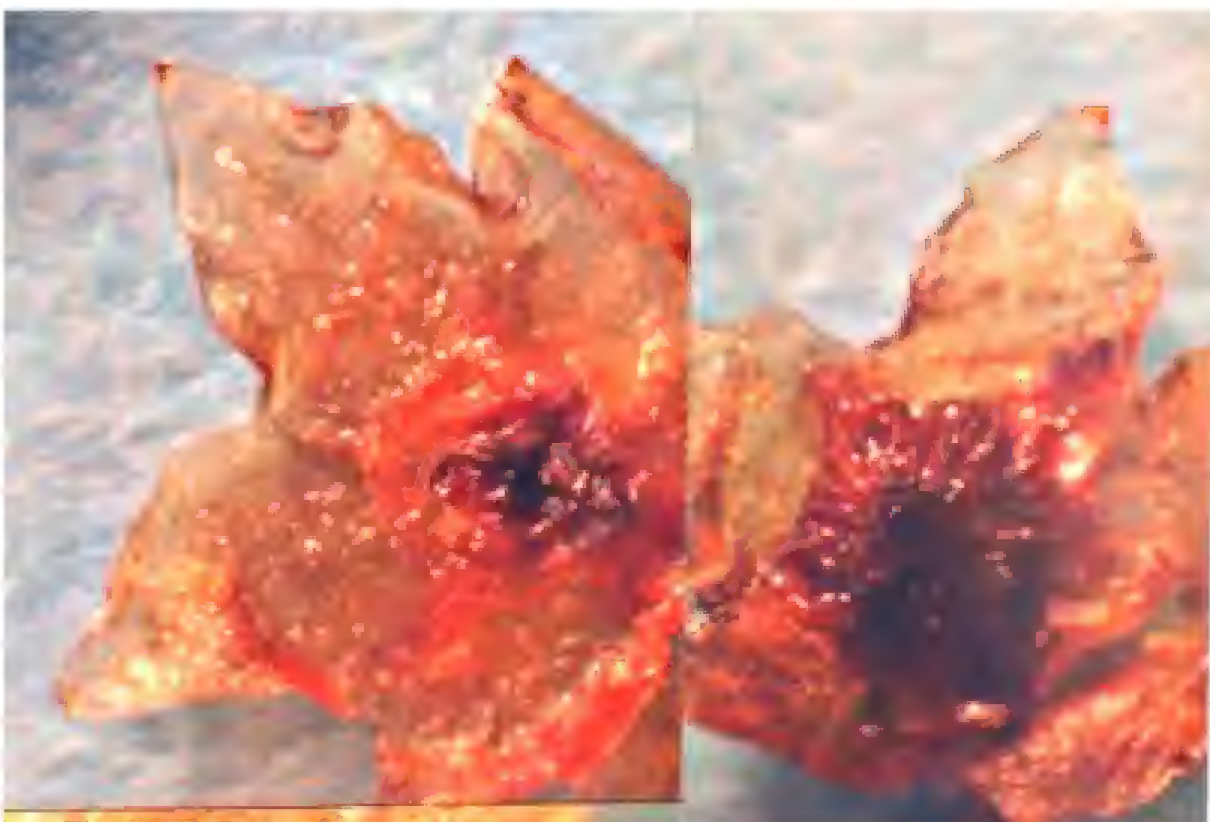
Inside surface of the corolla enlarged about 16x. Surface is pubescent. Central area is sunken and slightly thickened.

Sinus – sinus	0.15 cm
Sinus – center	0.24 cm
Apex – center	0.45 cm
Widest	0.25 cm



Bottom view of the corona, surfaces are glabrous and waxy, outer bilobes rounded, scales channeled and a collar in the center thickened with hirsute surface, anther wings doubled and thick.

Apex – apex	0.18 cm
Apex – end	0.23 cm



Two photos of the flower inside. the corona is small, bilobed and scales do not come near the corolla sinuses ends cupped upward. Scale is oval, inner lobe spatulate outer rounded. Apical areas are glabrous.

Hoya meliflua subsp. breviora Kloppenburg

ISSN 2329-7336

Hoya meliflua subsp. breviora Kloppenburg, holotypus 9385 (PNH) hic designatus. Similis species sed pollinia breviora 0.82 mm longis vs. 0.89 mm et pedicilis longior 1.9 cm contrastre 1.5 cm et pedicellis erectis filiformibus glabris, 1.45 cm longis; calycis segmentis late ovato-oblongis obtusis, vel suborbicularibus, glabris, 0.20 cm longis, corolla duplo brevioribus; corolla subrotata- subreflexa 1.20 cm diametro complanatus, lobis late triangularibus, subtus glabris, intus puberulosis, 0.55 cm longis, basi connatis; coronae foliolis late ellipticis, 0.31 cm longis, patentibus e basi deltoideo-lanceolata, apicem versus attenuatis obtusis, antheris vix longioribus; basi vix ampliatis obtusis, bene conspicuis, appendice hyalina late oblonga obtusa in stigma inflexa, marginibus loculorum incrassatis, breviter emarginatis, differt.

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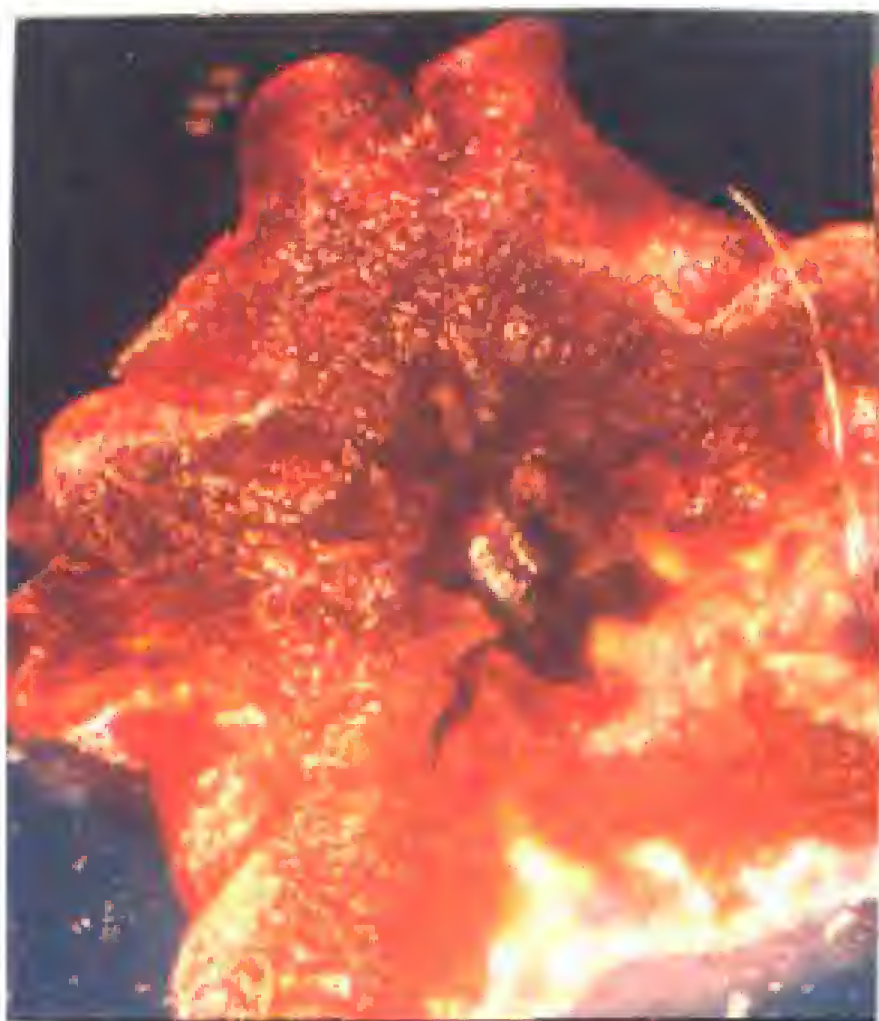
View of the calyx and ovaries with short section of pedicel enlarged about 16x.

Pedicel: 1.45 cm long, terete, glabrous, rusty in color dry, 0.07 cm in diameter.

Calyx: lobes are obtuse nearly round, ciliate 0.20 cm tall and 0.18 cm at widest, overlap about $\frac{1}{2}$.

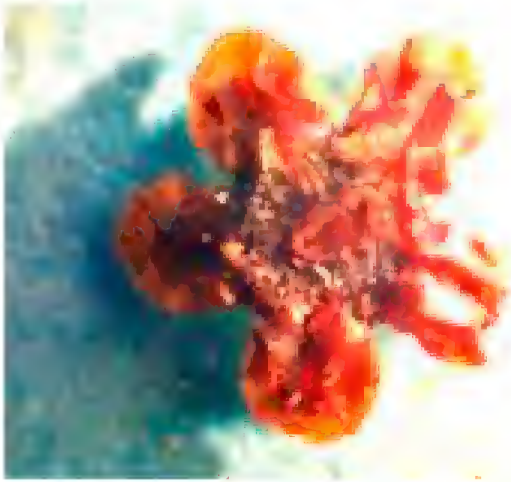
Ovaries: short, domed, glabrous, 0.12 cm tall and 0.07 cm at base pair.

Stylar crown center columnar with capitate head.



Inside view of the corolla enlarged about 16x. Outside surface glabrous, lobes broad and short. Inside surface thickly pubescent. Apex acute.

Sinus – sinus	0.42 cm
Sinus – center	0.35 cm
Sinus – apex	0.40 cm
Apex – center	0.60 cm
Widest	0.42 cm

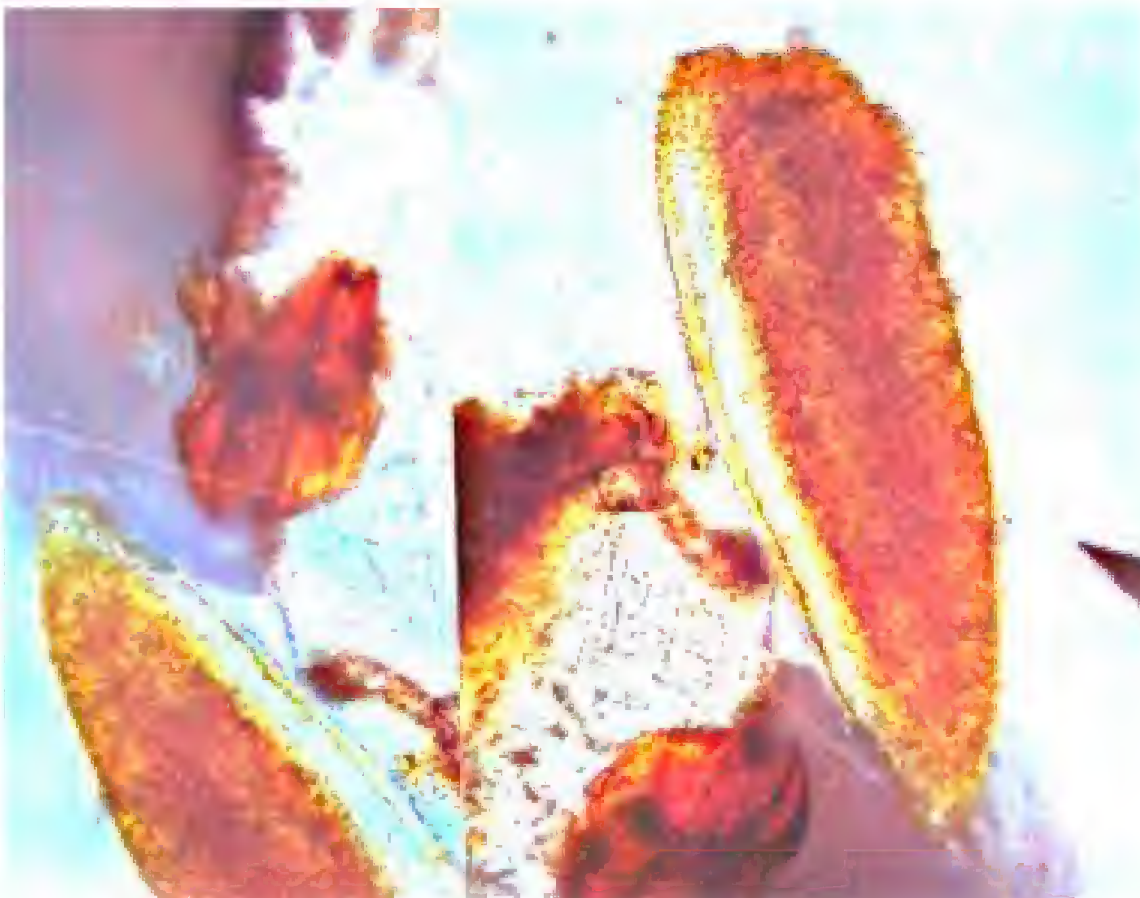


Bottom view of a corona, outer lobes are obtuse, rather thin and raised, grooved, and sides sulcate, Center massive and thickened. Surfaces are glabrous.



Top view of the corona. Anthers are long and membranous. exceed inner coronal lobe by ca. 0.06 cm Inner lobes spatulate, raised, dorsal cupped with central umbo.

Apex – apex	0.25 cm
Apex – center	0.31 cm
Widest	0.16 cm



Two photos of pollinarium. Pollinia were not attached to the caudicle, some pollinia had germinated (pollen tubes present).

Retinaculum

length	0.24 mm
shoulder	0.14 mm



Pollinium

Pollinia

length	0.82 mm
widest	0.26 mm

Translator/caudicle type: ls/o

Pollinia inner end type: R

Hoya meliflua (Blanco) Merrill 1837 Isotype 9385 (US)



Hoya eumbeitii Kloppenburg

ISSN 2329-7336

Hoya eumbeitii Kloppenburg sp nova, holotypus 37418 PNH hic designatus. Verede longis antherae & coronae lobis et longis retinaculum cum etiam stricta parvis florum. Florum in racemum globosis. More details below.

Collected by Friedrich Eumbeit at Taft Ave. Corner of Penn, Manila 27 March 1957, not here 1993. A sheet with flower umbel detached so am not certain flower belongs to stem. Characters are: very long anthers, very long retinaculum, very long coronal scales, small tight flowers. Flowers in globose umbel.

Blade: Narrowly elliptic, obovate apex acute base obtuse 6.5 – 10.5 cm long x 2.5 – 3.5 cm widest, glabrous, apiculate, penninerved. Petioles, strict, terete, glabrous, 1.3 – 2.2 cm. x 1.5 cm in diameter.

Peduncles: strict, ca. 6.0 cm long enlarging toward the rachis that is much enlarged, bracteate, glabrous.



Top view of the rachis with pedicels attached greatly enlarged.

Pedicels: equal length 2.5 cm long, terete, filiform, puberulent, reddish color, 57 +/- flowers.

Calyx: with dark colored ligules present. 0.25 cm long and 0.12 cm at the widest.



Anthers of corona: top view enlarged about 16x. Long linear ca 0.15 cm long, stylar crown 0.06 cm tall.

Ovaries: 0.07 cm tall x 0.06 cm.

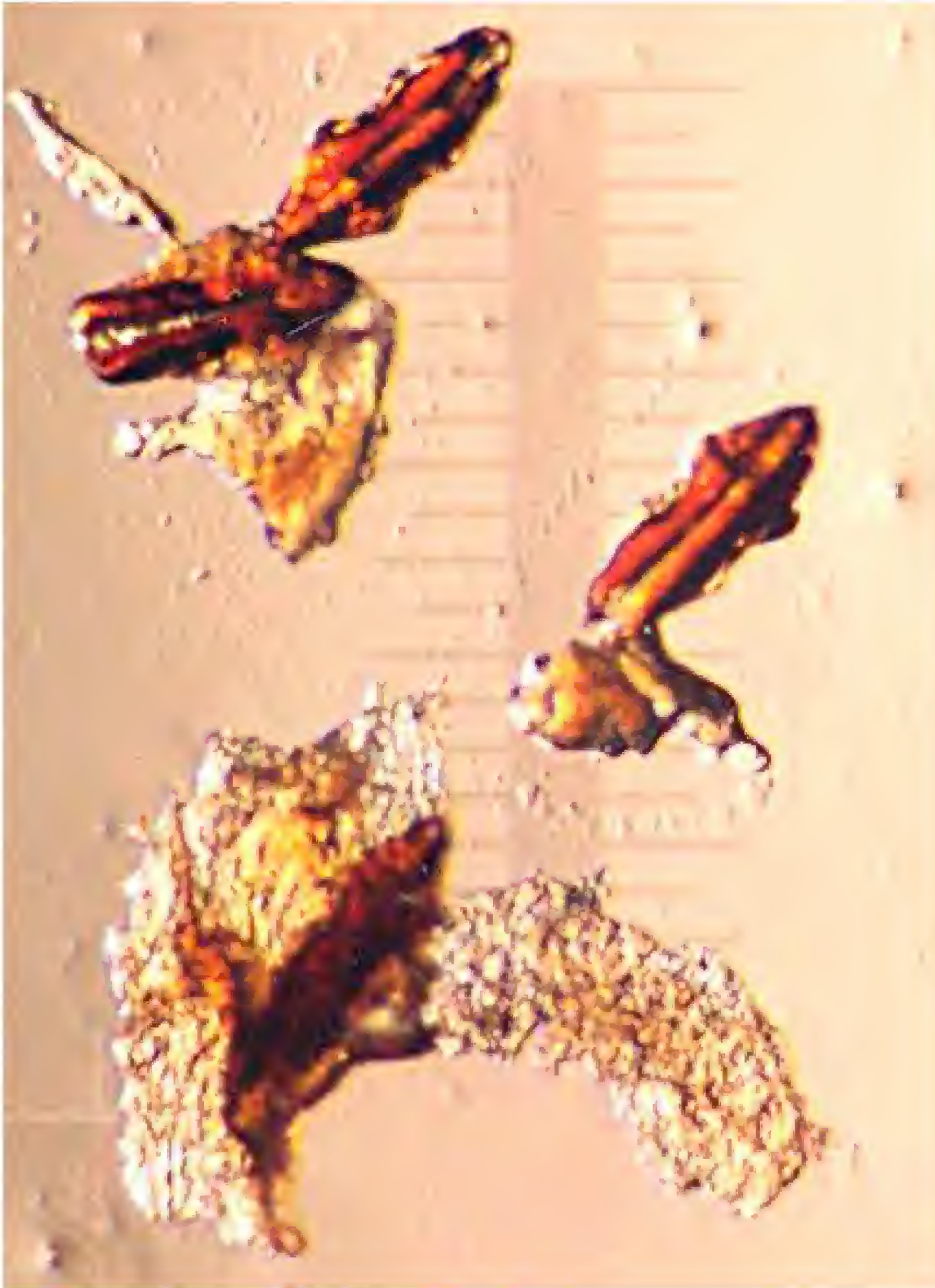


Corolla outside surface enlarged about 8x. This surface is glabrous, inside pubescent and reddish colored.

Sinus – sinus	0.26 cm
Sinus – center	0.16 cm
Sinus – apex	0.30 cm
Apex – center	0.40 cm
Widest	0.19 cm



Coronal lobe side view enlarged about 32x. Inner lobe is short, dentate? Lobe itself is cupped on the dorsal, outer lobe a little raised, sub acute and emarginate.



Pollinaria parts
enlarged about
165x. This is a very
long retinaculum.
Pollinia appear to be
shriveled and
distorted.

Retinacula: 0.70
mm long shoulder
0.03 mm wide.

The most unique
retinaculum I have
recorded among 240
specimens.

Holotype Sheet 37418 (PNH)



Hoya placherensis Kloppenburg

ISSN 2329-7336

Hoya placherensis Kloppenburg. Sp. nova, holotypus 295 (UC) hic designatus. This new species has an unusually large number of flowers per cluster, 50-60. It was collected by F. H. Bolster at Placer, Lake Mainit, Surigao, Mindanao, Philippines, climbing on tree, large cluster of flowers. 50-60. It is unlike any other Philippine hoyas species.

Peduncle: 5-7 cm long, rachis 4+ cm long, large 0.7 cm in diameter.

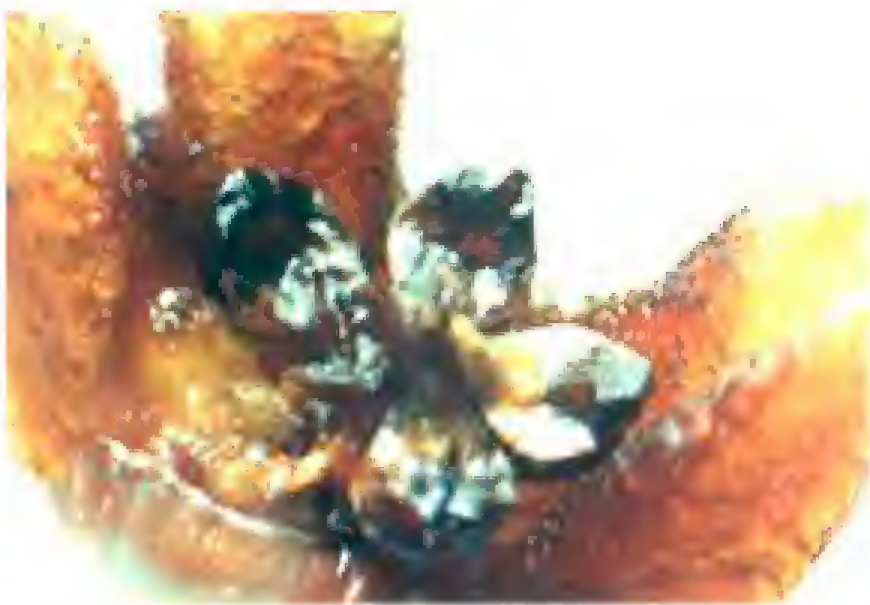


Side view of a pedicel, calyx and ovaries.

Pedicel: filamentous, surface punctate, puberulous, 1.5 cm long.

Calyx: inside concave glabrous, outside punctate, puberulous, 1.12 cm long, widest at base 0.10 cm I could not find any ligules.

Ovaries: large at base, short domed, glabrous.



Flower enlarged about 16x.

Corolla outside glabrous, inside punctate pubescent. Deeply cut, outside a collar 0.10 cm in diameter.

Sinus – center	0.11 cm
Sinus – sinus	0.10 cm
Sinus – apex	0.33 cm
Apex – center	0.42 cm

Corolla glabrous drying nearly black on drying. Inner lobes raised and subdentate; outer apex obtuse, dorsal with keel down center cupped out from inner apical area. Bottom channeled edges sulcate.

Apex – apex	0.28 cm
Widest	0.14 cm



Pollinarium with one pollinia missing and the retinaculum twisted.

Pollinium

length	0.51 mm
Widest	0.20 mm

Retinaculum

length	0.21 mm
shoulders	0.11 mm
waist	0.05 mm
hips	0.09 mm
ext.	0.05 mm

From this pollinium the species appears to be close to *H. merrillii* Schlechter

Translator/caudicle type: ls/o

Pollinia inner end: T

Retinacula type: S